Issue 62 | September 2024

Milk Manager NEWS

Farm Advisory Service
National Advice Hub
T: 0300 323 0161
E: advice@fas.scot
W: www.fas.scot

Contents

This month's editor:
Lorna MacPherson

Scottish Government
Riaghaltas na h-Alba
gov.scot

SAC CONSULTING
Part of Scotland's Rural College (SRUC)

Milk Manager NEWS

Milk Market Update

Dairy Commodity Markets

- Fonterra's latest on-line GDT auction (3rd September) resulted in a slight drop (-0.4%) in the weighted average price across all products, reaching US $3,833/t. This follows a 5.5% rise at the previous auction in mid-August and is the first negative result since the start of July. The biggest rises were seen in butter milk powder and mozzarella, up 8.4% and 7.0% respectively. The biggest drops were seen in lactose and whole milk powder, down 8.9% and 2.5% respectively. Full results are available at https://www.globaldairytrade.info/en/product-results/

- Apart from skim milk powder (SMP), butter, cream and mild cheddar continued their upwards trajectory in the UK wholesale markets for August. Butter broke the £6,000/t barrier again for the monthly average price – the last time this happened was in June 2022 and before that, September 2017, where it peaked at £6,150/t. Butter supplies are currently very tight on the back of limited cream supplies and less butter being produced. UK prices are largely driven by EU markets and the EU demand for butter and cream has been strong.

Commodity	Aug 2024 £/t	Jul 2024 £/t	% Difference Monthly	Aug 2023 £/t	% Diff 2024-2023
Bulk Cream	2,703	2,528	+7	1,623	+67
Butter	6,100	5,680	+7	3,680	+66
SMP	2,020	2,010	0	1,850	+9
Mild Cheddar	3,860	3,770	+2	3,330	+16

Source: AHDB Dairy - based on trade agreed from w/b 22nd July - 12th August 2024. Note prices for butter, SMP and mild cheddar are indicative of values achieved over the reporting period for spot trade (excludes contracted prices and forward sales). Bulk cream price is a weighted average price based on agreed spot trade and volumes traded.

- The availability of cream is also tight due to low milk supplies and the seasonably lower butterfat percentage, although this is now starting to pick up again. The cream price is the highest it's been for two years now, where it reached £2,858/t in September 2022.

- The milk protein products (cheese and SMP) have not seen the same volatility, with the market for SMP quiet, and mixed demand for mild cheddar.

- The AMPE price indicator is currently 1.73ppl ahead of MCVE, mainly due to the increasing butter price. The Milk Market Value is up to 41.29ppl for August, the 4th consecutive rise since April, when the indicator was 35.68ppl. These monthly increases indicate that farm-gate values will likely continue to increase into the autumn.

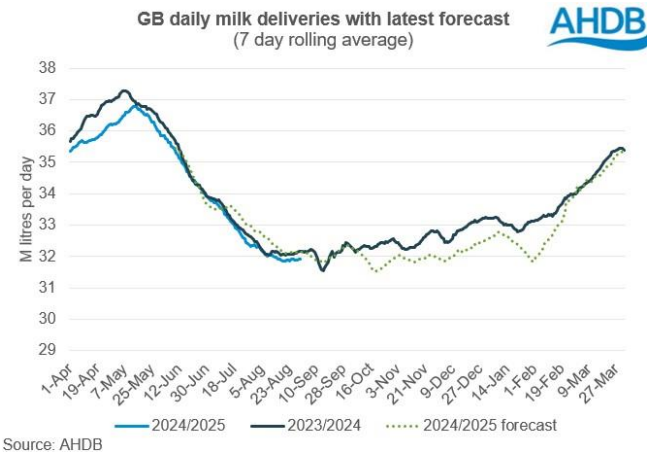
	Aug 2024 ppl	Jul 2024 ppl	Aug 2023 ppl	Net amount less 2.4ppl average haulage - Aug 2024 ppl
AMPE	42.68	40.49	28.61	40.28
MCVE	40.95	39.65	32.90	38.55

Source: AHDB Dairy

- Defra put the UK average farm-gate milk price at 39.48ppl for July, 0.57ppl higher than the June price and 11% up on the July 2023 price. The UK milk volume for July was 1,246 million litres, which was 2.3% less than the previous month and no change compared to July 2023.

GB Milk Deliveries and Global Production

- Milk production is running slightly below last year as of the end of August. Daily deliveries for the w/e 31st August were at 31.91mlitres, which is 0.1% more than the previous week but -0.9% less than the same week last year (-280,000 litres/day).



Source: AHDB

- Global milk deliveries for the six key exporting regions totalled 728.4mlitres/day for June, just 0.1mlitres/day less than in June last year. Production was up in the EU (+1%), Australia (+3.4%) and the UK (+0.1%) for June, with declines seen in Argentina (-7%), US (-1.0%) and New Zealand (-1.1%). The main reasons for production declines in the US were recent heat

stress conditions and the huge reduction in cow numbers in 2023. Production recovery in Argentina will likely be seen over the next few months with cooler weather on the way.

Monthly Price Movements for September 2024

Commodity Produced	Company Contract	Price Change from Aug 2024	Standard Litre Price Sep 2024
Liquid & Cheese	**Arla Farmers UK**	*+0.85ppl liquid +0.89ppl manufacture*	41.57ppl liquid 43.33ppl manufacture
Cheese, Liquid & Brokered Milk	**First Milk**	*+1.0ppl manufacture*	42.0ppl manufacture
Cheese	**Fresh Milk Company (Lactalis)**	*+0.91ppl manufacture*	42.0ppl manufacture
Liquid & Manufacture	**Grahams**	*?*	38.0ppl (Aug price)
Liquid & Manufacture	**Müller Direct**	*+1.25ppl*	40.25ppl (includes 1ppl direct premium. Does not include haulage charge)
Liquid & Manufacture	**Müller (Co-op)**	*No change*	40.21ppl
Liquid & Manufacture	**Müller (Tesco)**	*No change*	40.87ppl

Other News

- The number of dairy herds in Scotland is down to 773, a drop of 21 since the start of the year, according to the Scottish Dairy Cattle Association. The average herd size has increased to 233, with a total of 180,250 dairy cows, just 398 less than six months ago.

- Bluetongue BTV-3 virus is currently present in the Southeast of England and has recently been detected in Yorkshire. Remember this is a notifiable disease and any suspected cases in Scotland should be reported immediately to APHA. For the latest information on Bluetongue BTV-3 please visit: https://ruminanthw.org.uk/bluetongue-virus/

- The Ruminant Health and Welfare Group has developed new resources to encourage farmers to report all abortions and stillbirths, as well as submit samples for testing to help better understand and manage their herd's disease status. The aim is that more reporting of these losses will aid improvements in herd efficiency, as well as contribute better understanding of disease risk for the wider industry and identify possible emerging threats. This is particularly important just now given that Schmallenberg continues to be an issue and Bluetongue BTV-3 now circulating the in UK. Both of these diseases can cause late-term abortion. More information can be found here: https://ruminanthw.org.uk/reporting-all-cattle-abortions-and-stillbirths/

- Both First Milk and Müller have announced further price rises for October, with the First Milk price increasing by 0.6ppl to 42.6ppl and the Müller price rising 1ppl to 41.25ppl.

- Organic Herd (formerly OMSCO) has announced another 2ppl rise in its milk price for October, bringing its standard litre up to 56ppl. This follows a 3ppl rise in August and a 1ppl rise for July. The cooperative said demand for British organic products is increasing and they are committed to paying a stable and sustainable milk price to their members.

- Variable costs continue to fall, with feed prices declining along with fuel prices. However, fixed costs are still thought to be rising due to inflation and greater finance costs. The Dairy Group estimate production costs are currently around 44ppl.

lorna.macpherson@sac.co.uk; 07760 990901

Straights Update

UK Cereals Market Update and Global Impacts

Harvest is ongoing with very mixed results; early reports are highlighting slightly lower yields than average for winter wheat (-5% to -8%) and quality also very mixed with bushel weight and protein level concerns. Whilst milling wheat markets locally are limited, information on protein content will likely reflect protein trends in feed wheat varieties. UK Flour Millers Group 1 samples have generally averaged 11.5 to 12% crude protein (on a dry matter basis), below the required 13%. This is perhaps not surprising given the dull conditions experienced this year. It would be prudent therefore to check the protein content of feed wheat inclusions in livestock diet formulations.

The average reported yield (as per the AHDB's second 2024 harvest report) for the UK for winter barley is 6.3t/ha - 11% down on the UK five-year average. Winter malting barley quality is good, although there have been some lower bushel weights and subsequently lower screenings, and specific weights are averaging 64kg/hl across the UK. Nitrogen levels within the winter malting barley samples have averaged 1.5%, which is low as maltsters are looking for samples of up to 1.75%. This could affect exports as a higher nitrogen level up to 1.85% is required for continental malting. While both winter and spring crops so far are reported to be useable within the UK, this could prove a challenge for exporting. With higher nitrogen levels required for continental malting, the lower levels in the 2024 crop could mean more barley needs to find a home in the UK. This is likely contributing to ex-farm malting barley premiums over feed barley being notably lower than this time last year, equating to just £26.30/t more than the spot UK average feed barley price at the end of August. A year ago, the gap between spot ex-farm premium malting and feed barley was over £60/t.

Barley markets have been very quiet this week (w/c 2nd September), with farm sales slowing down following the harvest movement period. This has further reduced feed barley's discount to wheat to between £15 to 20/t (region dependent). At the moment the UK is unable to compete on the export market due to ample Black Sea origin supplies. This could change if we see further price decreases in UK feed barley due to supply from malting varieties.

There has been little change in the feed bean market this week. Harvest has continued to progress further south with some impressive yields being reported, however the majority range between 4 to 5t/ha. Values continue to hold a £40/t premium to London wheat futures. Demand remains limited as beans continue to be viewed as expensive in the mid-range protein market.

Wheat markets have seen a buoyant start to September although still down 20% from the May highs. With the US and EU harvests nearing completion and harvest farm selling pressure here drying up, trade liquidity has become an issue at the lower price levels, firming the markets. Whilst very volatile crude oil prices and currency rates are acting negatively on our domestic markets at the moment, any short-term lift to prices may well come from current weather risks leading to new crop production downgrades in the Black Sea regions and South America. Currently the AHDB's six-month outlook for wheat, maize and barley prices is neutral-bearish.

£ per tonne	Ex-farm Sept '24	Nov '24	March '25	Nov '25
Wheat	190	195	200	194
Feed barley	170	175	180	
Malt. dist. barley	225	230		
Oilseed rape	382	384	388	380
Feed beans		235		

Source: AHDB and United Oilseeds

mark.bowsher-gibbs@sac.co.uk; 0131 603 7533

Autumn Grazing for Rotational Grazers: Making the Most of What We've Got Left

At the tail end of the growth season making the most of your grass and maintaining pasture quality becomes far more challenging. The aim is to keep grass in the cow's diet as long as possible whilst maintaining target body condition score. Supplementation with silage and concentrates needs to be balanced with grass availability in order to leave consistent grazing residuals, whilst still ensuring adequate nutrition. Judging the timing of when to start the final rotation is specific to your farm, typical winter growth rates and grazing system. However, is important to keep in mind that the decisions made in the autumn will affect grazing in the spring, and in challenging years like this it may be better to house earlier and reset for 2025.

Infrastructure
Your farm infrastructure can greatly increase or limit your options and adaptability in the autumn grazing period. Ensuring tracks are in good condition is essential to prevent erosion and lameness in periods of high rainfall. Astroturf can be one option to protect tracks from wear and weathering.

Access points are important for increasing flexibility. More access points will reduce poaching in 'pinch point' areas of high cow traffic and enable the use of back-fencing. The same is true for water troughs. On-off grazing can also help to lengthen the rotation and reduce poaching. This involves grazing cattle when it is relatively dry but housing them and feeding silage in periods of heavy rainfall. Grazing during the day and housing at night is also a popular option.

Grazing
During the late summer and autumn, it is important to walk the grass every week because growth can change dramatically in a short space of time. Knowing what your feed demand is going into autumn and winter will help to dictate where and when supplementation or increased concentrate intake should be used to slow down the rotation. By early autumn, the rotation should be slowed to 30 days to build up covers whilst the grass is still growing, so that the covers are there to meet demand when the growth slows down.

In late summer and early autumn, we want to achieve the balance between maximising grass intakes and ensuring good grazing residuals. It is not easy to get the cows to utilise the grass as effectively during this period, but the aim is to hit residuals of 1500kg DM/ha (4 to 4.5cm) to encourage winter tillering for optimum grass quality in the spring. It also minimises the amount of dead material that will be carried over to the spring grass. Forcing cows to eat higher covers, with grass later than the 3-leaf stage, will reduce utilisation and grass quality, and equally grazing grass before the 2.5- to 3-leaf stage will inhibit autumn growth rates. Grazing residuals of 1500kg DM/ha in late summer will be easier to achieve than in later stages of the rotation, but ultimately updating the feed budget in response to weekly grass growth rates will help you adapt to the conditions by adjusting rotation length or taking bales to remove surpluses.

This year, if wet conditions persist ensure the wetter fields are grazed early to avoid them going into winter with excessive covers. It may be better for some farms to shorten the last rotation from 40 to 30 days and house earlier if ground conditions are becoming the limiting factor.

In the final rotation the fields that are to be grazed first in the spring (60% of the farm), should be grazed and closed first to allow these fields to build up some cover in the tail end of the growth season so that it is able to regenerate effectively in spring. The remaining 40% of the farm can then be used over the subsequent fortnight until the cows are housed. Going into winter with a flat grass wedge, ideally with covers of 2150 to 2200kg DM/ha, will help ensure there is not too much grass going into spring that risks deterioration at the base of sward, reduced quality and requires a high stocking density to keep on top of it.

Summary notes
1. Give yourself more options by designing infrastructure to handle grazing in wetter months.
2. Aim for residuals of 4 to 4.5cm or 1500kg DM/ha in late summer to reduce dead matter carry over and encourage tillering. It is better to push for target residuals sooner rather than later when conditions become more challenging.
3. Use grass growth data, leaf stages, feed budget and ground conditions to determine when to start final rotations and shut up completely for winter.
4. Manage supplementation to speed up or slow down the rotation based on your knowledge of your own farm and cow condition.
5. AHDB and Teagasc both provide an autumn grazing planner to help plan your final rotation and make sure you are closing off paddocks and hitting peak covers at the right time.
   Autumn planning for rotational grazing cattle | AHDB
   Autumn Grazing Management - Teagasc | Agriculture and Food Development Authority
6. Despite the best laid plans, this year rainfall is likely to be the limiting factor so do the best you can and look ahead to the spring.

freya.lance@sac.co.uk; 0131 603 7526

Feeding for Milk and Condition with Late Season Grazing

As we head into September with shorter days and grass quality declining, it can be difficult to maintain milk production and body condition at this stage of the grazing season. By the time a loss in condition is seen, it is too late, and the damage has already been done to future production and fertility.

Cattle are diurnal grazers and tend to graze more during the day and less during the hours of darkness. The most intensive grazing periods are early morning and late afternoon/evening. This is why buffer feeding is recommended before afternoon milking, so that cows maximise grass intake after PM milking.

In the second half of the grazing season, grass can become more stemmy and fibrous and it is more difficult to maintain sward quality and achieve the desired residuals. Topping fields can help to encourage more palatable, leafy regrowth.

It can be difficult to know how well buffer rations are meeting cow requirements when grass quality and intake is unknown. Therefore it is important not to overestimate how much dry matter, and therefore energy, cows are getting from grass. When the dry matter of the grass is high, under dry weather conditions, the amount of milk that grass can support is considerably higher than on a wet day.

The following tables show the impact of grass dry matter content on milk yield. The predicted milk yield assumes that protein is not in short supply and calculations are based on a 650kg cow producing milk at 4% butterfat and 3.3% protein.

Table 1. Milk production depending on fresh grass intake and grass at 20% dry matter and 11.5ME.

Fresh grass intake (kg)	Grass dry matter intake (kg)	Energy intake (MJ)	Predicted milk yield from grass (litres)
40	8	92	3.2
50	10	115	7.5
60	12	138	11.9
70	14	161	16.2

On a wet day, the dry matter of grass may be only 12% - in which case milk from grass will be considerably less.

Table 2. Milk production depending on fresh grass intake and grass at 12% dry matter and 11.5ME.

Fresh grass intake (kg)	Grass dry matter intake (kg)	Energy intake (MJ)	Predicted milk yield from grass (litres)
40	4.8	55	0 - not enough for maintenance!
50	6	69	0 - not enough for maintenance!
60	7.3	84	1.7
70	8.4	97	4.1

While it is difficult to know how much energy cows are getting from grass, an effective way to assess the nutritional status of the cows is to carry out a metabolic profile test. This can help assess both short-term and longer-term energy status (as well as protein and mineral nutrition). Another sign that cows have been lacking in energy is a low milk protein content of around 3% or less.

Tips to maintain milk production and body condition at grass:

- Top fields to tidy them up and encourage higher quality regrowth.
- Test grass for nutritional value so that your nutritionist can more accurately formulate a buffer feed to meet the needs of the herd.
- Consider feeding an extra 1-2kg concentrate on wet days, if possible, either in the buffer feed or through the parlour (if intakes allow, without compromising rumen health).
- Carry out a metabolic profile test to assess energy status.
- Consider keeping newly calved cows housed to better manage condition, maximise dry matter intake and minimise weight loss in early lactation to protect fertility.

lorna.macpherson@sac.co.uk; 07760 990901

The Benefits of Metabolic Profiling

Metabolic profiling is a useful management tool to assess the nutritional status of the dairy herd. Blood samples are collected at key times during the production cycle and analysed for various parameters to determine whether the ration is adequate in terms of energy, protein and mineral supply.

As the transition period is the time of greatest stress in the dairy cow and where the majority of health events occur (>75%), the key times to blood test are within 10 to 2 days of calving and 10 to 20 days post-calving. A mid lactation group around 80 to 120 days calved are also useful to check that the milking ration is capable of supporting milk production at this stage.

The numbers to test in each group will depend on the size of the herd and having sufficient numbers to sample at the correct time. It may be that sampling needs to occur on more than one occasion to make sure that a representative number of cows are sampled within the desired time periods. As a minimum, aim to test five cows, but for large herds, up to 12 will help give a more representative sample and clearer picture on nutritional status. Also, it is important that cows have been on a consistent ration for at least two weeks before blood sampling.

The table below details what parameters are commonly tested for (although other tests are available) and what they indicate.

Blood parameter	What it means?
Glucose	A very short-term measure of energy supplied from the rumen. Levels tend to be fairly stable unless cows enter severe negative energy balance.
Non-Esterified Fatty Acids (NEFA's)	A short-term indicator of energy status and the degree of body fat mobilisation and negative energy balance.
Beta-hydroxybutyrate (BHOB)	One of the ketone bodies produced when cows are mobilising excessive amounts of body fat. This occurs at a slightly later stage in the fat mobilisation pathway compared to NEFA production. Indicator of long-term energy balance.
Urea	Indicator of effective rumen degradable protein in the ration for adequate rumen function.
Albumin	Indicator of long-term protein status. Low levels suggest a disease issue e.g. liver fluke or Johne's.
Globulin	High levels indicate a chronic inflammatory condition such as mastitis or lameness.
Magnesium	Essential for calcium mobilisation at calving time to reduce slow calvings and milk fever related conditions. Also helps prevent hypomagnesaemia in early lactation.
Phosphorus	Important for normal reproductive function and energy metabolism.
Copper	Important for health, fertility and immunity. Levels tend to be relatively constant unless excessive over- or underfeeding. Liver biopsies are more accurate for copper status.
GSHPx (Selenium)	Indicator of selenium status over the past few months.

Signs of disease can also be picked up by metabolic profiling, as indicated by low albumin and/or raised globulin levels. This may be a symptom of an inflammatory condition such as mastitis, lameness or Johne's disease.

The blood test results should not be viewed in isolation and the following information is required to help make informed changes to nutrition and management:

- Ration information (including forage analysis)
- Body weight
- Body condition score
- Expected calving date
- Lactation number
- Actual or expected milk yield

While the ration on paper may appear to meet requirements, there are many housing and environmental factors that can affect the results and the cows' nutritional status. For example, overstocking and inadequate feed space will tend to affect heifers and less dominant cows more. Other considerations are whether there are issues with ration presentation, such as silage not keeping well (spoiling), ration sorting and acidosis risk.

If signs of inadequate nutrition are evident, it is important to act and quickly! There is clear evidence that cows in negative energy balance both pre- and post-calving are less likely to get back in calf, take longer to start cycling and get pregnant later, extending the calving interval. This tends to be more common in cows that are overconditioned during the dry period. Fatter cows tend to have lower dry matter intakes and lose more condition in early lactation. Depending on the amount of body fat breakdown, this can lead to fatty liver during the dry period and then increase the risk of ketosis in early lactation. To arrange a metabolic profile test speak to your vet.

lorna.macpherson@sac.co.uk; 07760 990901

Is Your Feed Space Sufficient?

As we head into autumn, winter feeding of dairy cows is just around the corner and following a poor summer and reports of some delayed silage cuts, maximising feed intake and feed efficiency is going to be key for performance. Part of ensuring good feed efficiency is the feed space that is available for the cattle.

Feed space requirements for dairy cows is reported to be anywhere from 0.6 to 1.0m per cow, and all cows in the group should be able to feed at the same time. Preferably, for dry cows and fresh cows/high yielders, the feed space per cow should be at the upper end of the range. Barrier design is vital for effective feeding; the cows require the ability to have good reach across the feed. The placement of the neck rail, and height of the feeding surface can impact the cow's posture if these are incorrect, which in turn affects the cow's reach.

Insufficient feed space can impact cow health, cause lameness issues and bullying issues within the herd. Cows may alter their feeding behaviour to avoid bullying at the feed fence. First time calvers who are low down in the social hierarchy tend to stay away until the majority of the cows have had a feed. Typically, heifers tend to have fewer meals throughout the day and consume larger quantities of feed at each meal compared to the cows higher up in the social hierarchy. If feed space is insufficient for the number of cattle, the heifers and thin cows are the ones that will be poorer performers in the herd with lower body condition scores. Adequate feed space which allows all heifers and cows to access the feed fence at the same time is vital for performance and reducing bullying issues in the herd. Depending on the farm infrastructure, heifers would benefit from being in a separate group which reduces bullying issues from older, more dominant cows.

Cows that can approach the feed fence freely throughout the day will eat little and often. This allows for a more stable rumen fermentation with less fluctuations in rumen pH, which in turn improves feed conversion efficiency and milk production.

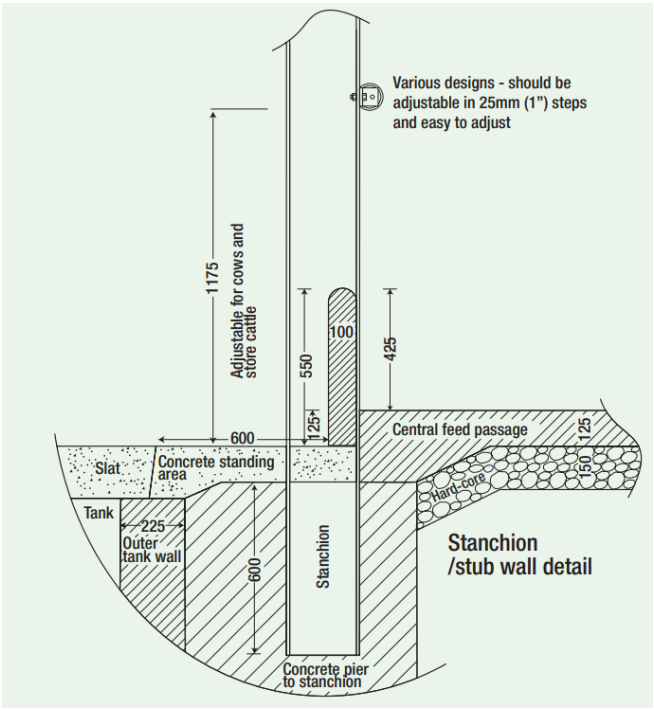
There are a variety of ways that the feed barrier can be designed depending on what suits your shed, with each design having pros and cons. Many feed barriers will have diagonal bars which can help reduce the quantity of silage being pulled through onto the floor. Diagonal bars need to be designed to avoid tag loss, which can happen if sharp angles are used at the top and bottom of the bar. A key disadvantage of the diagonal bar is the reach of the cow is limited and may not necessarily allow her to produce to her full potential. Therefore, regular

pushing up of feed throughout the day will be even more important to ensure feed is always available.

Like the diagonal bars, head-locking yokes are commonly used as a feed barrier with the main advantage being able to restrain the cows for individual treatments. This is particularly useful in robotic systems where you don't have the option to shed cows off from the parlour. Cows may feel threatened at feeding times with self-locking yokes, particularly heifers who have joined the milking herd.

A straight rail barrier generally works well for dairy cows as it allows them to reach fully and gives them plenty of space to exhibit their natural feeding behaviours. A disadvantage of the straight rail barrier is cows can end up standing sideways alongside the rail, which reduces the space available to other cows and particularly heifers who are unlikely to approach the feed fence if this is the case.

A single rail feed barrier design



Source: Teagasc

Feed troughs are another option which can be used and reduces the need for cows to reach far to get feed that has not been pushed up recently. The main disadvantage of feed troughs is the requirement to manually remove the waste feed and at times can be difficult to keep clean. Biofilms can develop which contaminate the feed, and similarly fresh feed being placed on top of old feed can go off quicker and reduce intakes and cow performance.

Prior to cows coming inside for winter, now is a good opportunity to assess your feed space and determine whether you need to carry out any maintenance or adjustments to the feed barrier. Also, it is important to ensure the feed troughs are as clean as they can be prior to starting feeding. Providing the correct feed space can improve cow health, feed conversion and performance.

cara.campbell@sac.co.uk; 01586 552502

Regenerative Agriculture: What Does this Mean for Dairy?

Regenerative agriculture or 'regen-ag' for short, has grown in popularity in recent years with events such as Groundswell: the regenerative festival, attracting over 8000 attendees. Milk buyers are now encouraging dairy farmers to adopt regenerative principles, with First Milk labelling themselves as the 'regenerative dairy' and Arla running a regenerative farming pilot program.

The main focus of regenerative agriculture is to protect and restore the soil to enhance ecosystem service provisions and biodiversity. Healthy soils will recycle more nutrients, store more water and capture more carbon. The five core principles are:

1. **Protect the soil surface and build organic matter**

Protecting the soil surface will ensure that the delicate ecosystems below ground continue to function effectively. Prolonged periods of bare soil are less of a challenge on grassland farms; however, care should be taken to minimise poaching from livestock and damage from farm machinery. Access to organic matter is less of a concern on dairy farms, but efficient manure use can maximise its potential.

What can you do?

- Develop a soil management plan to identify soil risk across the farm and explore ways to reduce the risk of run-off, soil erosion, flooding and compaction.

- Use cow tracks to prevent the soil surface from damage when moving livestock to and from pastures.
- Use low emission slurry spreading equipment and incorporate manure into bare soil within 12 hours of application.

2. Maximise species diversity

Having a variety of plant species on farm can improve soil structure, increase drought tolerance and benefit biodiversity. Deep-rooted plants can access water from further below ground and will continue to grow when water is scarce. A varied root structure below ground will aid drainage and water filtration.

What can you do?

- When re-seeding, establish multi-species swards with a mixture of grasses legumes and herbs.
- Consider oversowing herbs, clover and other grass species into existing swards.
- Plant hedges, trees and buffer strips strategically to provide shelter for livestock and corridors for wildlife and to reduce the risk of run-off and soil erosion.

3. Minimise soil disturbance

Cultivation can break up delicate ecosystems that enable plants to access nutrients. Exposing soil to air will allow aerobic bacteria to break down soil organic matter into greenhouse gases. The use of manufactured fertilisers can be harmful to soil micro-organisms which are essential for good soil health.

What can you do?

- Avoid ploughing and keep cultivations to a minimum where possible. Use direct drilling or minimum tillage when establishing new crops or grass leys. If compaction has been identified, consider subsoiling or sward lifting as an alternative.
- Develop a nutrient management plan and identify ways to optimise nutrients from organic sources. Carry out soil analysis and adjust nutrient applications accordingly.
- Increase the proportion of legumes in grass swards or crop rotations to reduce the need for manufactured nitrogen fertilisers.

4. Maintain living roots all year round

When plants are growing, they are constantly sequestering carbon and providing food for soil micro-organisms. Having green cover year-round will also help protect the soil surface from erosion.

What can you do?

- Use fast-growing cover crops after a crop has been harvested to provide growth over the autumn and winter months.
- Undersowing a crop will provide constant root growth after a main crop has been harvested, for example, undersowing forage maize (or other cereals) with Italian ryegrass.

5. Integrate livestock

Livestock provide nutrient recycling that significantly benefits soil fertility. Arable farms, absent from livestock, have depleted the soils and are now looking at ways to re-introduce livestock into the rotation. On dairy farms this is less of an issue, however, overgrazing can negatively affect soil structure and plant growth.

What can you do?

- Use a rotational grazing system that accommodates a 21-day resting period between bouts of grazing. Allowing plants to undergo a sufficient resting period will rejuvenate the plant and increase root growth and carbon storage in the form of root biomass.
- Manage stocking densities to avoid poaching, compaction and soil damage.

For more information on regenerative agriculture, please visit: https://www.fas.scot/crops-soils/soils/regenerative-agriculture/

marcus.fox@sac.co.uk; 01539 889990

Dates for Your Diary

- 11th September - **UK Dairy Day**. Telford International Centre, Telford, TF3 4JH.

- 24th September - **Soil Myth Busting (Inverness)**. Kingsmill Hotel, Culcabock Road, Inverness, IV2 3LP. Time: 18.00-21.00. For more information and to book your place please visit: https://www.fas.scot/events/event/soil-myth-busting-inverness/

- 24th September - **Conducting a Biodiversity Audit Workshop (Angus)**. Wester Braikie Farm, Arbroath, DD11 4RY. Time: 10.00-13.30. For more information and to book your place please visit:

https://www.fas.scot/events/event/conducting-a-biodiversity-audit-workshop-angus/

- 25th September - **Soil Myth Busting (Perth)**. Dewar's Centre, Glover Street, Perth, PH2 0TH. Time: 18.00-21.00. For more information and to book your place please visit: https://www.fas.scot/events/event/soil-myth-busting-perth/

- 2nd October - **Mineral Requirements in Housing Systems**. On-line webinar. Time: 20.00-21.00. For more information and to register please visit: https://www.fas.scot/events/event/mineral-requirements-in-housing-systems/

- 2nd October - **Better Wellbeing, Better Business (Stranraer).** Green Valley Golf Academy, Castle Kennedy, DG9 8SQ. Time: 10.00-14.00. For more information and to book your place please visit: https://www.fas.scot/events/event/better-wellbeing-better-business-stranraer/

- 7th October - **Carbon and Soil Productivity Workshop**. North Corbelly Farm, Dumfries, DG2 8DH. Time: 10.00-13.30. To register please visit: https://www.eventbrite.com/e/carbon-and-soil-productivity-workshop-tickets-1005131384027?aff=oddtdtcreator&fbclid=IwY2xjawFGU0VleHRuA2FlbQIxMAABHYOYXRZ1HXjKkmihv1Z_A6qu9jy8PfgcpUfOmzcptpGj-zDzRGoeyVS48w_aem_fTztYBw2y7J-Vxp0xUEFyA

- 6th November - **Mineral Requirements in Outwintering Systems**. On-line webinar. Time: 20.00-21.00. For more information and to register please visit: https://www.fas.scot/events/event/mineral-requirements-in-outwintering-systems/

- 13th November - **Agriscot**. Royal Highland Centre, Ingliston, Edinburgh, EH28 8NB. Time: 0900-17.30.

- 18th - 19th November - **Hannah Dairy Research Foundation Conference**. Moredun Research Institute, Edinburgh. For more information and to register your interest please visit: https://www.journalofdairyresearch.org/next-generation-dairying-2024.html

For any further enquiries regarding the information in this newsletter please contact:

Lorna MacPherson (Dairy Consultant)
SAC Consulting
Ferguson Building
Craibstone Estate
Aberdeen
AB21 9YA
Email: lorna.macpherson@sac.co.uk
Tel: 01467 530445
Mobile: 07760 990901

Funded by the Scottish Government as part of the SRDP Farm Advisory Service.